

INTRODUCTION

The Radar Level Transmitter Liquid (138 W51) is a high-performance, non-contact level sensor designed for precise measurements in various water applications. It uses advanced FMCW radar technology, ensuring accuracy with respect to the surrounding environmental conditions.

The device offers a high measurement accuracy of ± 5 mm with an 8° beam angle, a 300 mm dead band, and operates within a temperature range of 0°C to 60°C . It provides a maximum measuring range of up to 30 meters. The 138 W51 features a two-wire configuration and delivers a 4–20 mA output signal with optional HART communication for improved integration and diagnostics. Its design and reliable performance make it suitable for a wide range of water and wastewater level measurement applications.



SPECIFICATIONS

Parameter Name	Parameter Description
Measuring Range (m)	10 m, 15 m & 30 m
Dead Band (mm)	300 mm
Beam Angle	8°
Power Supply	24 VDC @ 30 mA
Accuracy	± 5 mm*
Analog Output	2 Wire, 4-20 mA @500 Ω load
Communication Output	HART 7 (Optional)
Device Configuration	Through Bluetooth Communication By Using Mobile App
Threading Type	1 1/2" NPT Threaded
Slip on Flange Type	2" / 2 1/2" / 3" / 4" / 5" / 6" ANSI 150#
Antenna Type	Lens Antenna
Housing Enclosure	PP / Aluminum
Antenna / Sensor Material	Polypropylene (PP)**
Flange Material	Polypropylene (PP), Carbon Steel (CS), Stainless Steel (SS316), Stainless Steel (SS304)
Cable Jacket Material	PE / PVC
Cable Length (m)	Top / Standard 2 m. (Extra length optional on request)
Protection Class	Standard IP67 / IP68 on Request
Process / Operating Temperature	0°C to 60°C

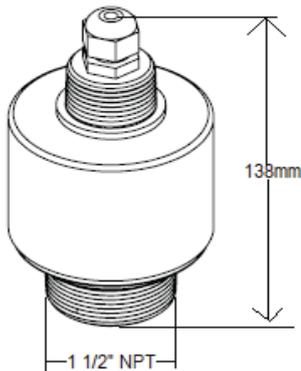
FEATURES & BENEFITS

- Configured through Bluetooth by using mobile app
- HART-enabled (optional)
- Maintenance-free operation
- Minimal dead band 300 mm for maximizing small tank fill capacity
- Rugged PP antenna and enclosure for liquid

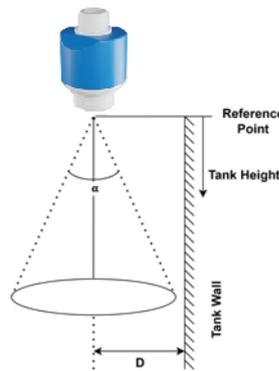
APPLICATIONS

- Water Storage Tanks (Elevated Storage Reservoirs & Overhead Tanks)
- Hydrological Monitoring Systems (Rivers, reservoirs, and dams)
- Irrigation Systems (canals and distribution tanks)
- Drinking Water Treatment Plants (Clean water tanks and filtration units)
- Water Resource Development Projects (Lakes, ponds, and artificial reservoirs)
- Wastewater Collection and Treatment (Clarifiers, sumps, and storage tanks)

MECHANICAL DIMENSIONS



BEAM ANGLE



Tank Height (m)	Tank wall 'D' (mm) $\alpha=8^\circ$
1	85
2	160
5	400
10	760
15	1060
20	1400
25	1800
30	2000

ORDERING CODE

138 W51

MR

PC

OPI

SF

MF

CL

MR

Measuring Range

- 1 : 10 m
- 2 : 15 m
- 3 : 30 m

PC

Process Connection

- 0 : 1 1/2" NPT Threaded
- 1 : Slip on Flange
- 9 : For Other Contact to HO

OPI

Output1 (Single Output)

- 1 : 4-20 mA
- 2 : 4-20 mA + HART

CL

Cable Length

- 02 : 2 meter
- LL : Custom Length (Contact HO)

MF

MOC- Slip On Flange

- X : Not Applicable
- 0 : Polypropylene (PP)
- 1 : Carbon Steel (CS)
- 2 : Stainless Steel (SS316)
- 3 : Stainless Steel (SS304)

SF

Slip on Flange Type

- XX : Not Applicable
- 21 : 2" ANSI 150#
- 26 : 2 1/2" ANSI 150#
- 31 : 3" ANSI 150#
- 41 : 4" ANSI 150#
- 51 : 5" ANSI 150#
- 61 : 6" ANSI 150#

Note:

*Under the Factory Set Condition.

**Contact HO for Other Sensor Material.

#Continuous development may necessitate changes without notice.

Scan & Visit Website



About SBEM Pvt. Ltd.

For over 50 years of expertise, SBEM has built a strong reputation in Level measurement, Flow measurement, and Pressure measurement, integrating with the cloud-based IoT platform by gradually adopting and mastering new technologies to meet the changing needs of industries across India and the globe.

HO: Gat No. 326, Shriramnagar, Gaud Dara Road, Khedshivapur, Pune - 412205, Maharashtra, India

Branches: New Delhi, Kolkata, Mumbai, Chennai, Hyderabad, Chattisgarh.